The Australian bee bulletin. Vol. 2, no. XXII February 23, 1894

West Maitland, N.S.W.: E. Tipper, February 23, 1894

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THE AUSTRALIAN BEE BULLETIN.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

VOL. 2. No. XXII. FEBRUARY 23, 1894. PER COPY, 6d

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Hunter River Bee-Keepers' Association.

MONTHLY MEETINGS.

TUESDAY, MARCH 20TH.
At West Maitland.

SATURDAY, MARCH 24TH.
At Tattersall's Hotel, Newcastle.

TUESDAY, APRIL 17TH.
At West Maitland.

C. MANSFIELD, Hon. Sec.

— THE —

Blue Pencil Mark.

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The Australian Bee Bulletin

A JOURNAL DEVOTED TO BEE-KEEPING

W. MAITLAND, N.S.W.,—.. FEB 23, 1893.

RINGBARKING.

THIS month's *Agricultural Gazette* of New South Wales contains what is termed "Notes on Ringbarking and Sapping, based on Foresters' Reports." The reports were the result of the following questions being sent to all foresters in the colony:—

1.—At what time of the year the ringbarking or sapping proves most effective.

2. At what time ineffective.

3.—The kind of timber that is most easily destroyed, and the kind that is the reverse.

4.—Whether you consider trees should be sapped or simply ringbarked.

Also any other information that may be useful to the Department, especially the effect of ringbarking on the grasses.

Most of the reports are matter-of-fact opinions as to the best method of destroying the trees, by ringbarking or sapping. Some of them state that for some four years after the ringbarking has been completed the grass is sweeter and better, but very little beyond that time. Forester Martin, of Gosford, concludes his report with—"It may be of interest to inquire whether stock diseases have or have not increased since ringbarking." Forester Deverell, Glen Innes, says—"In ringed timber the grass springs much earlier, but again, it dies off much quicker in dry weather. In conclusion, I think great care should be taken in reporting and inspecting on application for ringbarking, and I certainly should suggest that owners of conditional purchase leases should not be allowed to ringbark indiscriminately, as I have known cases where the above have been taken up simply to destroy the timber (it being the only timber in that part), so that it could not be used for building purposes, and thus the neighbouring land could not be taken up, as timber was too expensive." We give Inspector Forester Manton, of the Murrumbidgee and Murray, report in full:—

"The question of ringbarking timber upon Crown lands, I think, should be considered under two heads—First, the destruction of the natural forests by the process of ringbarking, with the object of rendering the soil more suitable for pastoral purposes by increasing the production of grass; secondly, ringbarking the useless trees, with a view of improving the condition and growth of others.

"I am utterly opposed to the system of destroying the natural forests in the extensive manner that it is being carried on in this district, as the extent of untimbered country is very large, and fully as much timber has already been destroyed by ringbarking as I deem advisable on Crown lands, especially when the large alienation of land that have already and are taking place, is taken into consideration, as the alienation of land virtually means the total destruction of the timber. In the course of a short time, on nearly all the alienated land the timber will be destroyed, and the population will be thrown entirely upon Crown lands for their future supply of timber for railways, bridges, fencing, building and even fuel.

"The destruction of the forests of this district has been carried on at an unprecedented rate, and I cannot but think that in the not very distant future, when this district shall become populated, that the wasteful destruction of its timber will be looked upon as a national calamity.

Under the circumstances above stated I would certainly recommend that no future permissions shall be given to ringbark timber upon Crown lands in this district. I think that no objection should be raised to the destruction, under proper supervision, of pine scrub, mallee, and other useless scrubs.

"With reference to ringbarking the useless trees, and thinning the saplings with the object of improving the condition and growth of others, I think that ringbarking with this object could not be judiciously entrusted to the pastoral lessee of the land to carry out."

Has the New South Wales beekeepers' Union sufficient standing of itself to be able to back up such recommendations as those of Forester Manton, or the expunging from the land laws any clause whatever making ringbarking under any circumstances a necessary condition of land tenure?

Mr A. Gale has been pegging away in the Goulburn district—been "as busy as a bee," inoculating the bee fever. He says his guns are shotted for Mr Helms' and the broadside will come off in our next issue.

H.R.B.K.A.

The usual monthly meeting of the above was held at West Maitland on Tuesday evening, Feb 20. Mr. J. W. Pender, vice President, in the chair. The Secretary, (Mr. Mansfield), said he had made arrangements for a meeting to be held at Tattersall's Hotel, Newcastle, on Feb. 20th. Called attention to the honey schedule of the Pomological Society in Sydney on March 2 and 3, also submitted Schedule of N.S.W. Royal Society's Show, at Easter in Sydney.

Mr Patten announced that he had been appointed judge at the forthcoming H.R.A. and H.A. Show, West Maitland.

Mr. Mansfield submitted a basis of a scheme for the reconstruction of the N.S.W.B.K. Union, to be recommended for the consideration of that body, That all members of Bee-keepers associations be members of the Union, the association paying a capitation tax. All persons unable from distance to join an assseiation to pay the full membership, 5s per annum. It was unanimously approved of.

Mr. J. F. Munday stated by accident he had introduced and kept a young queen and a two-year-old queen in the same hive. For over a month they both laid well, and were agreeable, when he removed one for sale. He suggested that experiments be made in this matter, as he saw it was an advantage to have two laying queens in a weak colony to build up rapidly. He also suggested that queens might be made peaceable towards one another by clipping the point of their sting off. The matter was discussed at length.

Mr Mansfield read a letter handed him by Mr Tipper, from. Mr Cooper, of Armidale, stating they were about to form an association there, as a branch of the H.R.B.K.

It was felt the distance too far apart for it to be a part of the H.R.B.K.A., but the Secretary was instructed to write to Mr. Cooper, wishing every success and offering all possible help to the young society.

A Mr. Bowman. a gentleman who is getting bee fever, and was at the Chicago Exhibition, was present, and gave an interesting address at the close of the business.

Mr. J. W. Pender exhibited English wasps.

TWO QUEENS.

Your correspondent, W.C., wishes to know my experience with my method of procuring two or more queens, laying on one stand. For an answer, I will refer him to page 189, where I state that, "no nucleus hives," etc., and to page 151, where I advocate using our plant more completely. This is just what two queens in a hive or three can do; especially after swarming during the six to eight weeks that elapse, till harvest commences. With me it is advantageous to have an extra queen laying and building up in the otherwise unoccuppied upper boxes. At the approach of harvest, she can be removed, and all made into one colony again, and with none of the usual troubles and loss by uniting. I have had colonies with three queens laying in this way, occupying seven to eight Heddon cases. This is also a means by which cells may be started at any time without making any hive queenless, in short from the beginning to the end of queen rearing, say in an apiary of one hundred, not one need be made queenless, nor any nucleus boxes called into use. Not only this, but from beginning to close of season our number can reiman stationary at one hundred, by working on the "no increase plan," which I have advocated elsewhere, and whenever desirable the efforts of our hundred queens may be supplemented by one hundred more, in procuring the very strongest condition of our colonies. By this plan also, I can also secure a supply of very early and late queens, mated to drones of my own choosing, at a time when we could not make nuclei, or keep them alive and going in this climate, and having these early queens, is to me valuable, chiefly, as it enables me to requeen any colonies, marked for requeening the previons Autumn, before these poor queens get many drones about, and these young queens will bring on splendid colonies, and I think, can be depended on to swarm only as a last resource, not as seems to be with older queens the case, as the aim and object of their living.

Again, this season, Dec. and Jan., to the present time, has been remarkable with me in the frequency of my nucleus colonies swarming out, leaving brood and honey behind. Nearly every second one has done so, and being away from home a good deal, I have lost many queens, etc. This I am confident, would not have occurred if these queens had been secured, and laying in strong colonies.

I have only experimented with my plan on the Heddon hive, and I doubt if it would be as valuable to any one having L hives, in all the points I find it useful in as it is to me with shallow cases. As to this point, Mr. McFarlane may have something to say, as I communicated the method to him for trial.

T. BOLTON, Dunkeld, Victoria.

THE WOLLONGONG SHOW.

Bees and honey at the Wollongong Agricultural Show were well represented by the two well-gotten-up exhibits of Mr George James, of Gordon and Mr Geo. Gordon, of Jamberoo. As at all the shows bees and bee hives were the centre of attraction, Mr Gordon having three glass hives of bees, and Mr James one of finely-marked Italians. There is no doubt to be in the company of a bee-keeper is time well spent, and somehow

they always get liked at all the shows, and are reminded to come again, and when one meets such kindly ones as there are at Wollongong no wonder. Mr Gordon, whose exhibit would do credit to any advanced beekeeper, was well gotten up, and by the large assortment of novelties in the make up of sections, small and large frames of honey, and cartoons of sections in all sorts and shapes of glass fixings, besides hives, extractors, solar wax extractors, honey tanks, uncapping cans and strainers, in fact a full line of beekeepers' goods, were exhibited by Mr Gordon and Mr James, and were a little show in itself, and goes to show agricultural societies that it must tend to make their shows more attractive to the average public, and with the leaps and bounds apiculture is now making room and provision must be made. The list of awards were as follows:—

Best display of bees and appliances for working —First, 30s, George W. Gordon; second, 20s, Geo James.
Best 12lb jars extracted honey, 10s 6d, G. James
Best bottle extracted honey—First 5s, G James; 2nd 2s 6d, G Gordon
Best comb honey, not less than 4lbs, first and 2nd, G. Gordon
Best yellow beeswax, 5lb—Turner first 5s; G Gordon 2nd 2s 6d.

Whilst jogging round at the Illawarra Show I noted with much disgust that honey in the comb cut out of a gin case and laid on a plate was in several cases given a first prize against several frames of honey in neat glass cases. And, to crown all, the judges cut holes in the frames of beautiful white combs to see—yes, just to see—if it were *real honey*, as they had heard so much about glucose honey.

QUEENSLAND.

Mr. H. L. Jones, Mel Bonum Apiary, Redbank Plains, contributes the following:—

Nectar.—For the past couple of months honey has been coming in splendidly. On the 3rd January I extracted 1,000 lbs. of honey, and 104 lbs of that was from one colony of despised Punics, and the hives are now full again. Oh! for 200 strong colonies just now.

Queen Clipping.—I notice that some beekeepers imagine that clipping the queen's wings has a tendency to cause the bees to supersede her. Now I have practised queen clipping for the past ten years, and out of some thousands clipped during that time, cannot attribute the supercedure of a single queen to this cause, although I have watched closely.

Doolittle Cells.—Has any one noticed what a difference in results there is in employing larvæ under one day old and that which is older? As an experiment I inserted eight larvæ about twelve hours old on one side of my stick of cells, and eight larvæ about 36 hours old on the other side. Now every cell of the older larvæ was accepted, but only four of the younger. There was also quite a difference in the size of the cells, when sealed, the older ones being all smaller than the four younger ones, but now that the queens have hatched and commenced laying I can see no difference whatever in their quality. I have been very successful with the Doolitle cups this season, averaging at least 14 out of every 16 cups inserted. I have also been equally, if not more successful, in using drone cells as described by G. J. D. Fooshe, and I shall probably adopt this method exclusively in the future.

A MESSAGE TO BEEVILLE.

Thank you, Mrs. Jeannie Atchley. I always delight in the voice of a rational woman, and yours, coming across the ocean, sounds specially pleasant to me. It could not not have come at a more opportune time, and I sincerely hope that the Bee-keepers of N.S.W. will take your sound advice to heart. There is great need for it this season, which seems in many places to have produced a poor honey flow, whilst diseases of the worst nature, are lurking in every direction. Clean quarters and plenty of stores must be the motto of the bee-keepers more than ever.

Rich. Helms.

MOLONG.

Mr. George Packham, Quickbourne Apiary, Molong, writes :—I have had some rather hard luck with queens recently, and knowing that you are always ready to give good advice, I pen particulars of my troubles.

I received an Italian queen through the post, got her introduced alright, and she commenced to lay, but after laying a few eggs she left off and got very stout, and I thought I had got a real fine large queen, and went often to admire her. On one inspection, after opening the hive very carefully without smoke, I found her on the bottom board, not balled now but with a few bees attending to her very attentively. The following day I found queen cells started, on the fourth day she was found on the ground in front of the hive, not quite dead, but died soon after. Last week I came across another young queen that had laid a few eggs and had left off evidently about a week, but still on the combs moving about very slowly as though her body was too heavy to carry about. I also found queen cells well on. I have lost quite a number of young queens this season, and was under the impression that they had gone off unobserved with a swarm, but now I am certain that they have been superseded, as they are incapable through some cause to supply the hive with eggs. I enclose stamp for reply if you will oblige.

[Could the queens have been injured either by transit or by handling? Perhaps some one else can give similar experiences and explain.—Ed.]

I notice by *Home and Farm* that Mr. Scobie took 5 tons of honey from bees fed on "Ironbark leaves." It would be interesting to beekeepers if Mr. Scobie would give his method of feeding—whether they (the leaves) have to be boiled, baked, or fried?

My bees are doing well, honey is coming in pretty freely from stringy bark and appletree. I have extracted about 8000lb and expect to get 12,000 before the season is done.

The honey crop in and around St. Ives, near Sydney, is reported to be a very poor one.

IMPROVE THE QUALITY OF OUR HONEY.

Mr. W. E. Bagot, Richmond River, writes :—As the quality of our natural honeys is engaging a good deal of attention at present and it no doubt depends a good deal on the ripening of it, let this be done properly and we will hear less of the strong flavour of Australian honey. And according to experiments made in America this can be done, best in a Sun evaporator, and I think most beekeepers will join in asking can any Australian beekeeper give his personal experience in this matter with full particulars and description of devices, etc. Whoever does so will be sure to get the thanks of many, and I am sure our genial editor will find a corner in the A. B. B. for him.

MOSS VALE.

Mr. R. H. Jervis, Moss Vale, writes,—We have had a continuous honey flow since October 7th to the present, but not enough to store any or very little surplus honey. One reason I have very little honey is, that I have increased my number of colonies greatly, they have averaged three swarms each, that is spring count, which I think is very good, considering that at the present all my hives are cram full of bees, some twenty frames Langstroth, and some twenty four frames. Now I have got as many as I require, I am returning them to the parent stock, to get the best results in spring. I practised spreading the brood, but in a very changeable climate like this, one has to be very careful or one will do more harm than good. I always have a few nucleus hives, containing laying queens, and when a colony swarms I remove it and hive new swarms on old stand, and give the parent hive a laying queen from one of my nuclei. There is one objection to the plan, and that is it takes all the field or working force from the parent hive, which has a large amount of brood to keep warm in the cold spring nights, consequently some of it perishes. Re paralysis, there is no such a thing in this district, Mr. A. Gale was lecturing here last week.

QUEEN CELLS.

Reply to W.C., page 198.—Queen cells may be put in any colony at once, or prior to removal of the queen, and hatched there in perfect safety, if a coiled wire cell protector cage is used, and without its use a virgin queen may walk out of her cell on removal of old queen. If a day or two from hatching, and unprotected, the cell is likely to be torn, if given at once.—T. BOLTON, Dunkeld, Victoria.

CUNNINGAR.

Mr James Jamieson, Cunningar, writes Can you tell me the best way of getting rid of laying workers, as they kill every queen that is put into the hive ? I find that cutting out all queen cells but one don't stop swarming with the Italians, as I have had three hives swarm and leave the parent hive without a queen or the means to raise one. Perhaps some of our bee men, especially those that praise the Italians, can give some information on the subject through the *Bee Bulletin*.

[Re getting rid of working layers, Mr Root recommends to give them a fresh invoice of bees, brood and comb from some other hive ; if you wish to make a sure thing, give them at least three good combs of brood and bees. Sometimes a fertile worker may be disposed of by moving the combs into an empty hive, placed at a little distance from the other. The bees will nearly all go into their old hive, but the queen, as she thinks herself, will remain on the combs. The returning bees will then accept a queen or queen-cell. After all is right the combs may be returned. You do not give us enough information to guide us in giving a reply re swarming. First swarming cannot be stopped by cutting out queen cells, but after-swarms can. Our advice is, hive first swarms, and prevent after swarms, or if no increase is wanted shake all bees remaining in the hive that swarmed into the swarm, and give the combs of brood to weaker colonies, after removing queen cells.]

Mr S. G. Shumack, Binnaway, report bees not doing well in that district now.

Mr James Hefferman, Brogo, writes : —Am well pleased with *A. Bee Bulletin*. Every beekeeper should subscribe to it.

Mr C. Mansfield, the energetic secretary of the H.R.B.K.A., is getting prepared some excellent magic-lantern slides, to supplement the ones he already has. They include views of different apiaries, &c., and altogether will occupy a very pleasing portion of the time of a beekeepers' meeting.

Good things for next, "Brush made foundation," by Mr. J. Grant, of Musclebrook ; The Apis Dorsator, communication from Mr. A. C. Rumsay, of Lewisham. Some good words from Mr. Pacey ; "Eye witnessing Mating" by Mr. T. E. Cambourn : "Foul Brood Experiences" by Mr. A. King,

Our next "Special Subject" will be "Ripening of Honey." This question, better understood, will help our foreign markets. Will all who can have a say in this subject do so, in the interest of all other Australian beekeepers, and themselves as well.

Mr John Stewart, Kangiara, writes :— I have great trouble with the moth among the black bees, they have almost ruined a couple of hives. I manage to get a little honey from them, although I do not think this is a good district for bees, the cold is too severe in the winter. About a mile away there is a stock reserve of about 1000 acres, consisting of red gum, yellow box, white box, apple tree, and white gum. Also in the neighbourhood there are four or five orchards, about ten acres each. I fancy I have got the first Italian hive in the district, there being no other beekeeper within ten miles.

Mr. H. L. Jones, of Goodna, Q., writes, —In 1887 while clipping queens, several doubled themselves up and became insensible immediately I grasped their wings, but in a few minutes they would recover and be none the worse. Although I have clipped some hundreds of queens each season since, I have not had a similar case until the 10th of this month when a fine large Carniolan became insensible as soon as I grasped her by the wings, and although her body quivered for about 10 minutes after, she never recovered. Doolittle noted this matter some years ago in "Gleanings," but, if my memory serves me right, recorded none with a fatal issue. Can any of the A.B.B. readers throw more light ?— [Will some one give similar experiences or explain.—ED.]

New Zealand Postal notes are not exchangeable in New South Wales. 5s subscription paid in advance is better than 6/6 booked.

WHEN THE EUCALYPTI FLOWERS.

Department of Mines and Agriculture
"Forests"
Sydney, 2nd February 1894.

Sir,—With reference to your letter of the 15th ult., asking for information respecting the Gum tree; I have the honour to inform you that the Foresters have been instructed to state the months between which the various species of Euclypti are in flower, how frequently each flowers, and any particulars as to the value of each species as a honey plant. When this information has been received you will be notified.

I have the honor to be, Sir,
Your obedient Servant,
WALTER S. CAMPBELL.
pro Under Secretary.

Mr. E. Tipper,
Australian Bee Bulletin,
WestMaitland.

HONEY EXTRACTING.

The following arrived too late for insertion in the "Special Subject" in our last:—

I use a four-frame extractor with cog wheels, as I find it the best and most expeditious. I always use a jug of hot water in extracting, into which I now and again dip the knife. Honey should be taken from the comb as soon as it is sealed, as it can be uncapped easier, and also extracted quicker and with less chance of the comb breaking.

6.—I have tried to grow the basswood or linden trees here, but with poor success. The climate is too hot. There is, however, a large tree growing near the Court House, which seems to do well, and I can procure plenty of seed if anyone wishes to give it a trial.

7.—My extractor is made out of tin. There are others in the district who use extractors made of galvanised iron, but I have never seen honey stored in vessels made of that material.

8.—Immerse the tins in hot water for awhile.

9.—I do not think that there is any great change. I have never experimented.

10.—More, I think, if you work your apiary carefully. When filling the super with combs always put in two or three containing brood, as it acts as an incentive to at once induce the bees to work above, and as the brood hatches out the combs will be filled with honey. Some queens lay pretty well all over the super while others lay but few eggs. I would favour the use of the zinc in the manner I say as it does away with burr combs. Only the other day on examining a super I found brood in every comb in abxndance.

11.—Fancy it would become a little stronger but have not had much experience.

Wm. Shaw, Mudgee.

A meeting of Newcastle beekeepers will take place at Tattersall's hotel on the 24th March.

Very little honey flow in the Hunter River district this year. Where tons were gathered last year feeding this.

Mr. John Puttland, Gundagai, asks:—

1st.—Can you tell me the price of "The Australasian Bee Manual," and if it is as good a work on the subject on which it treats as the advertisement sets it forth to be?

2nd.—What is the best method of treating the the comb in order to obtain a good sample of wax?

[The price of the "Australasian Bee Manual" is 5/9 postage paid. We can heartily recommend it, having read it through carefully.

The best way to treat wax is either by the Solar extractor, or Jones Steam Extractor.—Ed.]

SPECIAL SUBJECT NEXT MONTH.

HONEY RIPENING.

QUESTION NEXT MONTH.

What is the best way to get the best and most wax from old combs?

QUESTIONS.

17.—Do queen excluding boards tend to increased swarming?

18.—Do bees ever swarm normally, and leave unsealed or no queen cells started?

H. L. Jones, Goodna, Queensland.

17.—Not to any appreciable extent.

18.—Yes.

H. W. J. Taylor, Mountain Apiary, Minmi.

17. I have never had any experience with queen-excluding boards.

18. Yes, I have often had them swarm, and leave unsealed queen cells. It is seldom they swarm normally and leave no queen cell started, but they sometimes do so.

W. Shaw, Mudgee.

17.—Not in my experience. Bees will not swarm unless there is a good quantity of sealed brood in a hive, and frequently a queen will lay heavily in the super, especially drone brood, and I have even seen some in the sections. When this occurs, it is a pretty sure indication that the bees are going to swarm. Last winter I had several colonies that wintered in the supers, and strange to say, only one has swarmed as yet, and the best yields of honey has come from these hives.

18.—Not that I am aware of.

L. T. CHAMBERS, Melbourne.

17.—I have no reason to suppose such to be the case.

18.—Have never discovered that any swarm left until one cell at least was sealed.

FRITZ GEEBUNG.

17.—I have never used any queen excluders, therefore I cannot say.

18.—Yes, once in a while, it is not a usual thing. I remember only two.

Once and only once, I had an after swarm, issue during a pretty heavy thunderstorm, none of the bees being able to cluster, they being knocked down by the heavy raindrops directly after leaving the shelter of the bee house.

W. E. BAGOT, Broadwater Apiary, Richmond R.

17.—Cannot say positively that they do, but I am quite sure they do not tend to increased honey production.

18.—Yes, I have known hives to swarm, with only an egg in each queen cell, if they have been checked, by pinching cells near maturity, but have never known a hive to swarm without any cells.

T. BOLTON, Dunkeld, Victoria.

17.—With some bees that persist in crowding the honey below, and even crowd it there more because of the excluder being between the brood nest and super, the effect is to induce a desire to swarm. With others it is less likely to have that effect.

18.—I feel quite safe in working my out apiary, on the assumption that they always start, and usually seal some cells for queens before first swarms come off. Consequently I can time my visits aright, and need no one to watch for swarms. In doing so, this season with 70 hives, I discovered nothing to make me feel unsafe in this supposition, and in acting upon it.

GEO. JAMES, Bee Farm, Gordon.

17.—Early in my bee-keeping career, I always noted that colonies over which there was a queen excluder, and a two year old queen, appeared to swarm for no other reason than that the excluder appeared be objectionable. Latterly I do not think on the whole it tends to increased swarming. My future excluder is made of what is called safe zinc, having perforations 1/16 in. I cut same to fit, as to width, but bare $\frac{3}{8}$ in. short at each end, and can say it is giving satisfaction, and will guarrantee that all queens will get fertilised in upper storeys, where a full sized sheet is used between upper and lower story, and a few nuclei placed in the upper story, where they can get all the warmth required, and the queens can't touch noses, nor the bees either.

18.—Yes, I had two colonys that were extra strong swarms, that had no preparations in the shape of queen cells. One in 1890 and one in 1892, both of same being the first of the season.

W. S. PENDER, West Maitland.

17.—No; if put on at the proper time i.e. before the hive becomes very much crowded, if Italian bees are kept and the hive well shaded.

Yes! if with black bees and slow honey flow, or if hives are very much exposed to hot sun, &c.

18.—No!

R. H. JERVIS, Moss Vale.

17.—Yes.

18.—I have between twenty and thirty swarms this season, all first swarms. I never allow a second to issue, and I think in almost every case they have had a few cells sealed and others in various stages,

A. T. BURBANK, Castra Apiary, Mt. Gravatt, Queensland.

17.—No, queen-excluders do not tend to increased swarming.

18.—Yes, bees often swarm a few hours after the queen lays in the queen cells. We have had queens lay in one or two queen cups and then cast a swarm. The swarm that was left in the hive put larvæ in the rest of the queen cells themselves a few hours after the swarm was cast. We have also had swarms cast without brood being in the hive at all, but this generally happens when there is a virgin queen in the hive.

N. Z.

In my opinion excluding honey boards between the upper and lower stories undoubtedly tend to increased swarming. Out of the causes of swarming is an increased degree of heat in the hive above the normal temperature during the swarming season. Now, anything that obstructs the free ventilation of the hive, be it ever so little, tends to a rise in temperature and so to increased swarming No argument is needed to convince anyone that honey board excluders do obstruct the ventilation, as, even when a sheet of excluder zinc alone is used, more than one half the space between the upper and lower stories is shut off and the slatted boards cut off at least two-thirds of the ventilating space. There is also another good reason why they engender swarming, that is, by restricting the queen to a limited space. A good prolific queen in this colony when at her best will require more than 10 Langstroth frames to lay in, after allowing of course for the portion of the frames generally used for the storage of *some* honey, consequently, if she is restricted to these, as soon as they are getting well on to being filled with eggs and brood, preparations are made to swarm. I have always advocated allowing the queen unlimited space in the hive and putting on extra stories if needed, rather than use excluding honey boards—what is paid for the boards would go far to purchase the extra stories needed.

18.—I have known in at least one instance where bees have swarmed (not a starvation swarm) before starting queen cells, but I by no means consider this a normal state of things—quite the contrary!

J. F. Munday, Woodville.

17.—I do not use them for one reason on that account.

18.—Yes, often as I interpret the word "normally," that is under natural circumstances, such as a crowded hive, when the weather suddenly becomes unusually hot, or say, a bees nest in a tree. Under such circumstances bees swarm through discontent. Every year's experience strengthens my conviction of the correctness of that statement. Bees will sometimes swarm under the above mentioned circumstances, without leaving one queen cell started, and a queen cell may not be started in that hive, for several days after the swarm has left it, that I know. The above instances are natural, but not of course the rule when bees swarm.

C. Mansfield, Hunter River Apiary, Largs N. S. W.

17.—When the bees are well up in super and "on the job" I do not think excluders augment swarming. In putting on the supers it is generally the practice to put up in the top story one or more combs of brood to induce the bees to enter the super at once. The bees in the super, finding themselves cut off from the main hive appear to imagine themselves queenless, and especially with excluders and often raise queen cells. In most cases as the bees in the two parts of the hive fraternise more fully these are torn down, but if not a swarm will issue in consequence.

18.—In all my experience I have had but one case of a swarm issuing normally and leaving behind not a vestige of a queen cell. In fact it was about a week after the exit of the swarm before the increase of bees gave sufficient force to begin queen cells. The queen in this hive was of the orange coloured strain.

A. E. Kendall, Bibbenluke.

17.—My experience inclines me to the belief that they do, as neighbour E——— whose bees I have attended, uses the queen excluding zinc, and his bees have sent forth swarms while the top box had very little stores. My boxes—I do not use the honey board—were full top and bottom before any swarms issued.

I find that by occasionally transferring a full frame of the ripest brood from bottom to top box and substituting an empty frame with starter or comb guide in its place, swarming is checked. I think the honey board unnecessary as, if a queen has sufficient laying room in the bottom box she seldom if ever goes to the super to lay, and by occasionally giving an empty frame as above stated the want is supplied, and the frames taken from the bottom box are tougher and thus better for extracting.

18.—Yes, most certainly. On examining a hive after a primary swarm has issued I have *never* found a sealed queen cell.

I have examined dozens of hives and have never found queen cells containting larvæ more than seven days old.

THE SPECIAL SUBJECT.

BEE PARALYSIS.

L. T. CHAMBERS, Melbourne.

Very little experience. Have generally found change of queen would most quickly remedy the evil.

W. SHAW, Mudgee.

I have never been troubled with paralysis among my hives, consequently I am not in a position to say anything about it.

GEO. JAMES, Gordon.

I had a little experience with it in 1892 and 1893, and so far as to account for its origination I cannot, but as a few leading bee-keepers have had the disease who have kept entirely different strains of bees and at the same time, have blamed the very yellow bees for its introduction, but I desire to defend no particular bees as I say positively that *all* bees are subject to it, and the very first case I ever saw was from an imported queen from Italy. But for all that, I will be honest enough to say that I found the *very* light yellow four to five banded bees appear to suffer most with the disease. One of the strangest parts is that the queens in a diseased colony appear to be gifted with extra laying powers, as I noted very particularly, that at all times there was an enormous amount of brood in all stages, and well supplied with food. I experimented as follows: First, I removed the queen from a diseased colony, and gave them another from a clean colony, and put the queen from diseased colony into the clean. Result, the diseased colony got permanently cured, and the colony to which I gave the diseased queen got bad, and I again tried a cure as follows, with a barber's sprayer. I sprayed the combs, bees and all, with a strong solution of salt water and salycilic acid, result nil. Next tried oil of cinnamon, and oil peppermint, result no cure. Next I heard of dry powdered sulphur, finely sprinkled over the brood and in the hive, and this appeared to have a notable effect, but did not totally stamp it out. Next I filled my smoker at night time, and into it put a tablespoonful of sulphur, lit it, and blew the fumes into the entrance, until not a hum could be heard, when I quickly raised the cover of the hive. This certainly killed all the bees that were affected, but in a few weeks all were as bad as ever. So, just a little disheartened, I attempted another cure. This time, I filled my smoker as before, with sulphur, and I blew in the fumes, until not a bee survived to tell the tale, and thus the winter of 1893 ended the disease in my yard, and to anyone who gets Bee Paralysis, I think remove and kill queen is the best course to adopt, but do *not* give them a *queen cell* or *virgin queen*, only a queen that you know is clean. I will add that, so far, I have never noticed that any harm comes of using the comb again.

G. R. HARRISON, Lower Portland.

The little experience I have had of it shows me that I know nothing about it, and what I can collate of other people's experience seems to point to its being hereditary, it being confined to the progeny of one breeder's queens. The McLean remedy, when used of great strength, and applied twice daily, had the effect of checking it a good deal. I intended to try arsenic as a remedy, but I could not get any in time, as it seems to have gone off itself, Honey has ceased to come in for some time, in fact we have had little since orange bloom.

JOSEPH MONNIER, Planter Fla.,—*Gleanings.*

I have had several cases of bee-paralysis, and salt had no effect. But I have discovered that powdered sulphur, well sprinkled over the combs and bees, cures the worst cases in from one to three days. When bees get lazy, that is the commencement of the disease, and an application of sulphur kills the fungus growth, and the bees go to work with a vim. I have cured ten cases with it and it does not injure the bees.

C. MANSFIELD, Largs.

Some years ago—in fact when I was laying the foundation of my present apiary—I had a severe visitation of paralysis among my bees. Out of about 20 hives, only two survived, my breeding queen and a hybrid daughter. It was in the autumn—a very wet one, and most of the hives in the neighbourhood suffered. Most of us attributed the disease to bad soddened pollen It is worthy of remark that I had then—being a beginner and having a special admiration for those long yellow beauties of queens—the orange-coloured breed. And, by the way, while on a visit not long ago to the apiary of a fellow beekeeper who has had a nasty gruelling from the disease, I was pointed out a hive containing the only true bred leather-coloured queen in the yard. This hive was free from the disease, and in capital condition, while the Doolittles bore the trouble with a very bad grace. This beekeeper returns to his first love, the Ligurians. Fortunately I have been free from any symptom of the disease since keeping the Ligurians myself. I should, however, be deeply interested to hear how the disease manifested itself in yards containing a mixture of orange-colored, leather-colored. and hybrids from these two races. At the same time that I keep on hand a bottle of cinnamon for use, as explained by Mr. Bradley of Appin at the '93 Convention, in case of an attack, perhaps the surest cure would be the German method (as contained in a recipe sold at a high price by a certain quack) for ridding tenements of bugs and fleas; viz., "catch 'em and kill 'em." Of course I mean the queens, as they seem to a great extent responsible for the propagation of the complaint.

N. Z.

Although this disease is sometimes to be seen among the cultivated bees in N.Z., I don't think it gives our beekeepers much trouble. Speaking for myself, I have had only very few cases of the disease during my lengthened experience with bees in this colony, neither have I heard much complaint from others. How to account for it I don't know. One gentleman—an experienced and very observant beekeeper—I was in communication with about it—believed it to be caused by some particular kind of honey his bees were gathering at the time, but as the disease soon wore off without doing very much damage, there was no great cause for further investigation. I can scarcely think that this theory is correct, although held by a good many beekeepers, because as we know some colonies in an apiary may be attacked while others keep free of the disease, and this would not likely be the case if caused by the honey gathered at the time, as the chances are some of the bees from each colony would gather the same honey, in which case the disease would appear in each colony. The cause and cure of bee diseases are subjects of the utmost importance to the beekeeping industry, but I am afraid nothing of any moment will ever be discovered in that direction until the matter is investigated scientifically, and then it may take years to experiment before any good practical results are attained. In the meantime, however, the more light let in on such subjects the better.

Salt strewn about close to the infected hives so that the bees can get access to it has been well spoken of by some beekeepers who have claimed cures by this method.

W. T. SEABROOK.

For some considerable time past beekeepers in N.S.W. have been more or less troubled with this very serious disease, and at farms where it raged so profusely the mortality was exceedingly great, many owners were very dubious of saving any of their colonies The very important and difficult question which then arose from our friends located far and near, was, what shall we do to eradicate this terrible disease? Is it infectious? As previously promised I would contribute matter bearing on this subject, and to give you my experience and opinion of the disease, last March, after a few days rain, I observed one hive in particular (pure Italians) casting out bees with trembling symptoms, and on close examination found their abdomens swollen and distended. Having previously heard and read so much of the dreaded "Bee Paralysis" (without any personal acquaintance of the same) I began to fear the hive in question had contracted it. I therefore lost no time in seeking if there were amongst my neighbours stocks, bees similiarly affected, and behold I was satisfied, yes satisfied, they cer-

tainly did not have the appearance of being total abstainers; they were tumbling in all directions. This being the case, the fear entertained was, was it contagious? I therefore used the greatest precaution in my manipulations. Having tried the many remedies named: Powdered Sulphur, McLean's Mixture, Oil of Cinnaman, Common Salt, Disiufecting Hives, &c., without success, I tried a preparation containing—Salicylic Acid, Bicarbonate of Potash, Common Salt, and Cane Sugar. This I administered by spraying the combs, and bees, and found it to be more beneficial than any of the last named recipes I found the new remedy named by me to be more efficacious in dry weather than in wet, but not an effectual cure. What struck me most peculiar about this disease, was, it seemed to attack the Italian strain more than any other race. I therefore devoted my attention to the pedigree of the queens of the affected bees, and found from investigation that the queens of the diseased colonies were all bred and mated in that season (not the previous one) and therefore came to the conclusion it must be in copulation, the drones being diseased. No fear need be entertained that the disease was infectious or contagious, because I have proved it by the removal of healthy queens to diseased stocks. In the one it gradually disappeared, but on the other hand where the healthy stocks were requeened by queens from the affected hives the disease made its appearance in about 21 days "when the young bees were emerging from their cells." In order to prove that this disease is inherited from the drones, brood was selected from an affected queen for breeding purposes, the result being that all the progeny showed signs, more or less, of the disease. My opinion is that the disease has been brought about by the want of proper care in the breeding of queens, and the impossibility of selecting drones to mate them. Many of the best apiaries from which our bees have been imported are no more able to control mating than we are. Whilst they can select the healthiest and best of queens it is utterly impossible to select their drones for the purpose of breeding queens for exportation or otherwise. The apiaries in older countries have been breeding queens for years past from the same strains and have the selection of them under their control, but they have not that same control over the drones. The drone and the workers from the same queen differ materially in their characteristics, i.e., the characteristics of the drone, that is, the father of the workers will not show itself in the drones from the mother of that worker, but in the drones of the next generation. Therefore, imported queens of the best strains, and the most careful selection cannot be a guarantee of the health of the drones she will produce.

We have the remedy entirely in our own hands by following the undermentioned directions.

Diseased Colony.—Remove the queen and introduce one from an healthy hive, and trap all drones of that colony.

Queen Breeding.—Never breed queens from hives that have been affected with the disease.

Drone Breeding.—For stock purposes, select an old queen that in her younger days produced excellent honey gatherers, this I consider will effectually cure the trouble.

PETER RIDDELL, St. Ives, Gordon.

Dear Sir,—The disease visited my bees at last, stayed some months, and went off with seventy colonies. Long may it stay away. To give detailed experiments, which cost me a round sum, would occupy me a full pair of *Bulletins*. Let us to results. The genuine bee-keeper will be interested, will be patient. To the comparison of definite reasoned beliefs in the mirror of logical debate I will respond: as to reports, ideas and opinions, why should I? By the old measure that "a thing must either be or not be," I find with regard to bee paralysis, that—

1—It has caused and causes great destruction among bees, so beekeepers are called upon to exterminate the pest.

2—The cause of bee paralysis not definitely known.

3.—No effectual medicinal cure has yet been discovered. Given specifics up to date are absolutely useless. A medicinal cure is possible, but very probably impractical.

4.—Natural cures have appeared with fresh queens.

5.—A not generally recognised yet very marked feature of the disease is, that some nymphs are visibly affected, showing unhealthy slow development, and remain in the cells beyond the normal time of emerging.

6—A treatment with positive cure has appeared. What element or combination of elements in the cure is effective does not appear, and whether the cure will be permanent time will tell.

7—That the disease affects all genders and all stages of bee life. On what may we look as the possible cause of bee paralysis? (*a*) damp; (*b*) fungoids; (*c*) ferments; (*d*) bacteria; (*e*) hereditary special organic weakness, and hereditary disease. We may include such as bad food, with a long string of consequents under each heading.

The disease followed a distinct class of bee, in the queens in particular, and wherever male evidence shewed the race, in the workers. Experiments for all the above gave 99 per cent. of evidence for *e* with *d*.

Infected queens may transmit disease in one or all relations to an apiary. It does not appear, however, that a non-related healthy lot will be contaminated permanently. The affected individuals. where no predisposition or inherited

weakness exists may work off the disease by their death. Bees of different colors make recognition easy, and while working such I have seen enough to make this novel statement. Some queen bees are either fertilised a second time, or after what time the queen's system supplies the fertiliser with the qualities of her system, her progeny are affected from that self-system. That is, the older the queen gets the bees take more after her and her elders than after the drone and his. Will some one please disprove this, a point of pure heredity in bees. I expect it will be found that bee paralysis results from a bacillis always present in the bee world, but harmless to the naturally vigorous under sanitory conditions, but to highly-cultivated (?) bees, non-swarmer six gold-banders, it brings home the penalty of all overstrained subjects, both animal and vegetable, a weakness and susceptibility to disease. Nature has a limit, beyond which inbreeding and hybridising must in some point fail. That need not deter intelligent improvement, but when utility, which in bees is work-power, is sacrificed for color, let truth decide. Were things not so, man's presumption would breed a bee large enough to first transfix all the beekeepers in a line on the point of its sting, lap up the world with a whoop, and depart with the planets in its train towards Algob.

Treatment for Healthy Lots,—Boil out complete hive—water, soda crystals and soft soap. Dry in the sun. This is cheap, and effectually kills all life on the wood. In transferring to clean hive, pick out tough, black, heavy old combs, and those with too much pollen, too wet or dry, and those containing decidedly irregular stages of brood. Not patchy brood simply, nor that which may be described as the result of indiscriminate laying, but that where an egg, grub, and nymph are contiguous extensively. Because this state may be the result or the precurser of disease. If too much brood appears remove the worst, and let the queen start on a clean central comb and give you an even slab of brood. Place frames as close to each other as there will be just room for two bees between brood combs. Give a new warm porous quilt—thick sacking, and let the hive have a slight incline, however waterproof.

For diseased colonies, first kill the queen. In ten days introduce a healthy queen, and when she lays about as much the bees now cover, kill her also. When the brood is all sealed, introduce a fresh queen, or let the bees rear and select one for themselves. Before introducing a queen that is to be your keeping, or allow a young queen to lay, transfer into cleaned hive, most carefully removing and selecting frames, &c., as for healthy lots. If any brood remains not emerged beyond the right time remove that by all means. If only a few are late they may be picked out with a strong needle.

The object of the treatment is to get compact brood of the same age. To make a break between feedings of batches. To lessen the danger of contagion from scattered feeding. To let the bees clean and prepare a continuous area for fresh eggs. To work out the disease through the young of a healthy queen. Why kill the healthy queen we first introduce? Because she may have swallowed a microbe, from her adopted ladies, which in time may split into two and multiply by the cube root in her descendants. The loss in number of bees from dequeening so is only imaginary; for in nature times of rest, cleaning, storing and brood rearing holds rule.

Points of Importance in view of Bee Paralysis. —Have nothing to do with Non-swarming bees. Keep no old queens. Make a sacrifice of your old cocoony combs to A.I.R. Give your bees a chance to clear their wax glands by some judicious comb building. Clear out patchy brood, and stop queens that will not stop it. In rearing queens, artificial cells and collected feeding let alone. Take eggs from young vigorous queens, in new combs, and of those whose brood is equal and nicely rounded when sealed. Allow no more than three cells to be used at any one feeding. Bees in queen rearing concentrate their energy on a few cells only, using others as laboratories, which others may later be completed merely as reserves. These reserves, if used, may give short-lived inferior layers. The cell of continued and special attention gives the desirable queen. One healthy queen introduced will cure in ten cases out of twelve, and the remainder will yield to two or more. Those who have reason to consider the above pure nonsense may do so. It is pleasing to know that Mr Helms is now to the fore with microscope and experiment. We wish him all success. But medicine will never cure where inbred weakness is a factor of disease. From its first appearance here to its disappearance I stopped sale of bees and queens entirely. And although that was a loss I can now show a healthy lot. It is quite possible, however, that wherever the disease has been only played with it will again return, and where it has not been it may be. I think it strange that those who had experience of it long ago did not save me expressing my profound ignorance on the subjects. Let those who will not bend to opsimathy for their own delight now demonstrate for me their original beliefs.

DOES BEE-KEEPING PAY.

For the Australian Bee Bulletin.

As our short winter days are upon us here in the United States of America, and as the bees are all housed as snug and warm as possible, to stand the blizzard and zero weather we are having, so there is nothing more to do with them till

April or May, 1894, I fell to thinking along the line of how well the pets had paid me during the season 1893, which with us has been hardly up to an average. As thinking with me always leads to action I will give the readers of the "Bee Bulletin" the amount the bees have paid me the present year per colony where worked for bees and honey, this not including the amount received for queens at all. After placing the last amount received from the sales of honey on my ledger, then footing up the whole receipts and deducting the expense incurred by the bees therefrom, I find I have an average profit of 9,76dols for each colony I had in the spring that was worked as above. This would be about two pounds of Australian money, as one pound equals 4,87dols of our money at the present time. The above 976.dols per colony is the cash receipts, free of all expense, except my labor. Thus it will be seen, if a person can care for 200 colonies of bees, (and this is done by many of our practical apiarists,) this would give an income of 1.952.00dols a year. But to be on the safe side suppose we call it 100 colonies, thus giving a salary of 976,00dols. As said above the season of 1893 was hardly an average one for bees in this locality, which being a fact, it would not be unreasonable to say, that the above might be an average yearly income from bees for any person engaged in apiculture. As proof the above is not overdrawn, I will say that I have cleared on average over 975.00dols from my bees each year for the past 20 years, with an average than less than 60 colonies each year. Don't understand me that I have laid up that much each year, as some seemed inclined to interpret it, only that I received that as a salary, if I may so put it. That bee-keeping will compare favorably with any other honorable pursuit in life, I firmly believe, and if any fail may it not be for the reason that they do not properly attend to it? Men will give their horses and cattle the best of care, but when it comes to the bees, they let them take care of themselves, with the exception of hiving swarms and putting on and taking off sections. What could they expect from their cows treated in that way? The keeping of cows here in the U.S. means milking twice a day for at least 210 days out of the year, and feeding them three times a day for 160 days, saying nothing about cleaning stables and other work necessary to carry on a dairy. When men are thus willing to care for bees, they will find they will give as much profit as can be obtained from cows, or any other branch of rural industry. Bee-keeping means work, energetic work, a place for everything, and everything in its place, and to know how to do things just at the right time and in its right place, if we would make it profitable. We also want the best bees, the best hives and all modern appliances, the same as he would have in any other agricultural pursuit. Also a man must have a liking for the business. A person will not succeed in any business unless he has enough love for his calling in life so he will be diligent and faithful thereto, and take real pleasure in seeing it prosper in his hands. In conclusion I wish to say that the November number of the *Bee Bulletin* shows that the one who has the management of it has a liking for the same, for, surely we can all see that this paper is prospering in his hands. He would give all credit to the "Australian Bee-keepers," and tell them "it is all your own fault," but I cannot think otherwise than if we beekeepers who wrote for our papers were obliged to place our articles before the world in the crude form in which they are written no paper would be a success in which they appeared. No. Mr. Editor, it is *your hand* that puts the polish on our articles, which makes them readable, and it is *your* compiling of these thus finished and polished articles which give enchantment to the reader. May you long live to keep the *Bee Bulletin* in the front ranks where it now stands.

G. M. DOOLITTLE,
Borodino, N.Y.

FOUL BROOD.

A Mr A. C. Mitchell, of Enfield, Ill., U. States, writes the following lines to *Gleanings* for Jan. 1 :—

After shaking your diseased colony off and hiving the bees on comb foundation, as Mr Root says, leave enough bees to care for the brood in the old hive, if it is worth caring for, until all the brood is hatched out—say four days ; then make the second drive. The combs will then be mostly clear of brood ; but keep the bees by themselves. *Don't* put them with any others unless it is with another just driven out, as they will carry the disease with them. Now for the combs.

Make a tank just large enough to take a comb and frame lying in the bottom, eight inches deep. Get a pound of pure phenol, or carbolic acid; have the druggist put it in solution with 2 oz. of glycerine. Make a bath of one part of carbolic acid to fifty of water, or half a pound of carbolic acid to three gallons of water. Now take the combs, and, after extracting the honey, dip them in the bath, turning them so that you can get both sides full. Put them in the extractor, and throw out the fluid, letting it run back into the tank. This fluid may then be put in jugs, and sealed up for future use, as it holds its strength pretty well. Having made sure that every part of the frame is touched with the fluid, your combs are ready for use. If any of the combs have dead, rotten, or sealed brood, after dipping, take a common bulb syringe and inject the fluid into the cells. It will surprise you to see how fast you can wash them out. Burn or boil all cloths ; scald or burn out hives as directed by Mr. Root.

If your colony is not worth saving, don't try to burn it. Brimstone at night, when all are at home, if possible. Don't let a single bee get to you or away from you while working with foul brood, as that is the only way the disease is propagated.

If, after all, your bees take it again, they are either carrying it in from some other hive in your vicinity, or the queen is diseased, which by the way, is a mooted question. But I have stopped it by simply killing the queen. Of course, I treated the partly drawn foundation as above. I have between 700 and 1000 combs in my home apiary that have been so treated that have never shown the disease since, and never will unless carried in by the bees. Use your combs for hiving new swarms, or for any other purpose. If the bees refuse to stay in put an entrance-guard, such as is furnished by the Roots, on your hive. It will settle the question. Entrance-guards or queen traps are a necessity. I give preference to the entrance-guard, as it is more easily manipulated. But I use both.

Now for a few short rules.

1. Carbolic acid, or phenol, which means the same, will kill all microbes if used in sufficient strength.

2. Allow no bees to get to or from you while working with foul brood.

3. If you destroy a colony, do it at night with brimstone. Kill them all.

If you follow the above you will beat the disease. Southern Illinois is full of it, and has been for ten years. We have treated it for that time with varying success, until we adopted the above treatment, which has proved successful.

To which the Editor of *Gleanings* adds : [Our correspondent evidently writes from experience, becausehis article shows that he has been "through the mill." We are not surprised that he should condemn all the various acid treatments, of the strengths recommended. These "medicine cures" are proving everywhere to be no cure at all. While we know that phenol, or carbolic acid, reduced 500 times, as recommended by Cheshire, will not affect a cure—at least, failed to do so in our case and recorded reports we have read, we see no reason, however, why, when reduced only 50 times, it should not disinfect the combs. If combs were good, and well wired in good frames, it might be advisable to

wash them in carbolic acid, as described, instead of burning. However, if we had only one or two colonies that were affected, we should hesitate to try anything else than burning.]

MRS. JEANNIE ATCHLEY
Answers Mr. R. J. CRIBB.

Brisbane 23rd, October, 1893.

MRS. JENNIE ATCHLEY,
Grenville, Hunt Co., Tex., U.S.A.

I have read your advertisement in *Gleanings in Bee Culture* respecting the five banded Italian Bees. And also have read the article respecting Willie Atchley and his mode of Queen rearing. I want to ask you and Willie what is the best way to get the queens to the laying or fertilized stage? Do you follow Doolittle, and place four young virgin queens in a top story, or form nuclei. And how do you do it. It is a very easy matter to raise queen cells, but the difficulty comes after raising them, in getting the virgin queens to laying queens. I am a reader of *Gleanings* and have *Root's A.B.C., Doolittle on Queen.Rearing, Langstroth, Newman,* and many other bee books, but will receive any information you may be able to give with many thanks. Enclosed is 30/- equal to $7. 20 Post Office Order for one of your very best five banded Italian queen bees, and if there is any balance left after paying for her, please send it in untested five-banded Italian queens. Yours truly,

R. J. CRIBB.

Friend Cribb :—As I only partially answered your inquiry by letter, I will try to further explain through the A.B.B. How to get laying queens, we do not use the upper story plan as you describe. As the entrances to the apartments are too close, even if they are in different directions, the queens will too often return to wrong entrance, and sometimes the whole of the four will return to the loudest noise at the entrance of the main hive and all be lost. We form our nuclei by taking two to three frames with adhering bees and hatching brood from as many hives, and place them in nucleus hives prepared. Should the bees show fight, shake them together into the bottom of the nuclei, close entrances, lay wire cloth over nuclei for ventilation, after frames are put in set away two to three days in cool place, an evening late on the third day remove them to where you wish them to remain, give each a queen cell ready to hatch, do not have them closer than twenty feet, with entrances facing different directions. Have plenty of drones, near by, see that the nuclei have plenty of food, and about the fifth day, if weather is fine, your queen will fly out to mate, and return without the loss of one out of 10. Try and see.

We sometimes break up full colonies into nuclei. But, the above plan is to keep from reducing the number of colonies. Any hive that has been queenless three days will do to form into nuclei, and give cells at same time. But, it is best to close up nuclei two or three days, that the bees will not return to old stand, or if you break up a full colony, you need not leave any on old stand, and one day closed will do, as then they will visit old stand, but not enter other hives close by, as they sometimes do if not closed up at all. There are many ways almost too numerous to mention, and we practice nearly all of them during a season, but I give only the most common plans that we use. Should you have out yards as we have, you can go and get nuclei by drawing or otherwise, and move them right out and they will need no closing after removal. I suppose you understand.

How to get good cells. Have your nuclei in good shape, and give well built cells, and have plenty of drones, and you will get 75 per cent laying queens, or we do.

JENNIE ATCHLEY,
Beeville, Bee Co., Texas, U.S.A.

A BEE LOAD.

The Editor Bee Bulletin.

Dear Sir.—During the holidays, I have been making a few experiments a to the amount of honey a bee is capable of carrying per trip ; the result of which may interest some of your readers. I first chloroformed and weighed four worker bees in a correct assayers' balance with the following result :—

No 1.—1.5775 grs. Troy.
„ 2.—1.43 „ „
„ 3.—1.48 „ „
„ 4.—1.6 „ „

An average of 1.5231 grs. per bee. I then dissected them, taking out the honey cysts or first stomachs, none of which were nearly full. These averaged 0.2816 grs. each, therefore the average weight of a worker bee without any honey in its cyst was equal to 1.5231 less 02816grs., or 2415 grs. I now caught two bees going into the hive, apparently fully laden with honey. They weighed 1.87 and 1.975, or an average of 1.922 grains. From these I was unable to extract the cysts intact, they being too much distended to permit handling. I therefore took the average weight of an empty bee from their weight, *i.e.*, 1.2415 from 1.922, which leaves as the full weight of honey carried by a laden bee 0.68 of a grain troy. There are 7.000 grs troy per lb. avoirdupois ; therefore a bee carrying 0.68 of a grain troy would require to take 10.294 trips to gather a pound of honey ; or one pound of empty bees, in number 5,645 bees, will gather at the same rate per trip, one pound one and a half ounces, in two trips each ; or the big yield from the Basswood, mentioned in our friend Roots book of 43lbs. in three days, can be gathered with a little to spare, by one pound of bees in 79 trips each.

I now caught two fully pollen-laden bees. No. 1 had almost no honey in the cyst, weighed 1.505 grs., and the pollen weighed 0.205, giving the empty bees weight 1.3 or very nearly the result I got before. No. 2, had a little honey in the cysts, weighed 1.52 grs., and the pollen weighed 0,225 of a grain. These experiments were not repeated often enough to be exact, but should give a fair idea of what a bee carries. The bees were hybrids. I tried first of all to weigh a number of bees, and then feed them up in confinement, but I found on dissection that they did not take full loads of honey that way. The weight of two fresh hatched queens was 3 15 and 3.25 respectively.

The time a queen takes her first flight has been so variously stated, I should like to mention a recent observation of mine. I hived a swarm too large for one box, chiefly on foundation, about mid-day Dec. 16th, which I divided some days later, they having already started queen cells. On the afternoon of Jan. 3rd I examined the queen cells. In the queenless half they were intact, but about ten o'clock on the morning of the 4th, I found a queen out, and some of the other cells destroyed, so that she must have come out since the evening of the 3rd, or in 18 days, not including the day of hiving. Next day, Jan 5th, at about the same time, when I opened the hive, I had some difficuity in finding her, but at last found her alone on a sheet of foundation, and when I lifted it out she almost immediatedly took flight, circled round, and went quite out of sight, came back unfertilised in about two or three minutes, she could hardly have been over one and a half days old at the time.

A recent analysis of honey given in the A.B.B., does not mention an acid as a constituent of it. I have read somewhere that the bees injected a little formic acid into the cell prior to sealing. I find that honey gives an acid reaction with litmus paper, when both sealed and unsealed, but I could not be quite certain of the latter as it may have been sealed honey reopened. Yours Truly,

THOS. R. O'GRADY,
Whiteman Creek,
Grafton.

HEREDITY IN BEES.

ALBERT GALE, SYDNEY.

In dealing with Mr. Abram's article in reply to that of mine on the above subject it is my intention to take each sentence of Mr Abram's where I think it necessary, requiring a refutation, in the order in which he has written them. Quotations from Mr. Abram's article are printed in separate paragraphs and in smaller type. All the Italics are mine. His first pargraph is composed of quotations from my article.

"The larger quantity and quality of food given to the queen larva is so clearly a point of fact that no practical beekeeper can ignore it.

In my article are these words, "that there is a *difference in the food* fed to the larva queen and the worker bee in the various stages of their development is unquestionable. After referring to the construction, &c.of the queen's cells I have again written 'have all more to do with the development of the generative organs of queen bees than feeding with *larger quantities of food.* Have I ignored it?

"In a long and extensive practice a beekeeper has opportunities of noticing many things which the novice has no idea of.

If Mr. Abram refers to me as a novice I must remind him that I was a practical beekeeper, not for pecuniary profit, but for the love of the observation of bee life, before he was in leading strings. Practical beekeepers have "opportunities of noticing" but by far too many of them do not know how to use the eyes God has given them.

The first five sentences of his second paragraph are exceptions and should not have been introduced.

"Very often the bees are required to build queen cells upon worker cells containing young larvæ. These are surrounded by worker brood, and therefore lack the conditions essential to their development.

They do not. When a queen is required to be evolved from an egg or larva in a worker's cell the conditions are wholly altered, as Mr. Abram himself states in the 20th sentence of his 5th paragraph' so as to be exactly the same as those required for the development of a queen intended to be such from the laying of the egg.

"These eggs were never intended for queen progeny at the time of being deposited, nevertheless quite perfect queens have been hatched from these cells equal to those reared in *naturai* cells, provided food is supplied them of a proper kind by the bees."

This does not affect my statements in the least. The queens cell that the workers build in which to rear a queen from an egg that has been laid in a worker cell is as *natural* as that built for the purpose of raising a queen so intended from the beginning. The environs of the worker egg or young larvæ have been wholly changed the queen's cell being perpendicular and standing out in bold relief so as to receive all the natural advantages I have named.

"The size of the cell is immaterial so long as it is not too small to hold the quantity of food and natural sized insect is also shown by the fact that worker bees reared in drone cells are not particular in excess of ordinary bee size and never anything else but worker bees."

The whole conditions as quoted by Mr Abram are so altered from those required to produce a queen that nothing but a worker or a drone as the case may be could be evolved therefron. The inmates are wholly enveloped in a cocoon, and fed and reared as other workers are, the cells are capped in the same manner and with the same materials as other worker cells, the inmates lying horizontally. To produce a queen under such circumstances would be utterly impossible. The cell must be perpendicular and its inmate erect and having all the other natural conditions I have named. Has Mr. Abram ever found a queen in a horizontal cell built of wax, and capped as other worker cells are, its inmate lying horizontally and on her back? His quotation is wholly in accordance with my statements. I am very thankful to him for it.

Mr. Abram says "the size of the cell is immaterial so long as it is not too small to hold the quantity of food and the *natural sized insect.*"

The *natural sized* insect must have a natural sized cell.

"The quantity of food is undoubtedly the main factor capable of developing a queen."

All the food, if it were cent per cent more, fed to a larvæ bee in a worker cell built of the same materials and having all the other material agencies of worker cells, could never produce a queen from an egg or larva in a worker's cell if it were equal in dimension to the largest queen cell, unless there is an alteration in the whole of its construction.

"In cases of scarcity (of food) the consequences prove fatal."

Bees never attempt to rear queens when there is a scarcity of food, excepting the colony should become queenless.

If food begins to fail during the development, the larval queen is neglected and she is removed from the cell. Scarcity of food proves more or less fatal to the developing young of both the animal and vegetable kingdom. The embryo queen is no exception.

"I have more than once bred bees in drone cells and I have now a small piece of such brood in spirits ready to submit to any test."

When Mr. Abram says he has bred *bees* in drone cells I suppose he means *workers*.

Worker bees in drone cells have all the natured conditions of worker bees in worker cell and all the conditions surrounding them are those for the development of a worker's physical characteristics and not those of a queen. The cells being a little in excess does not make it in any respect equal to that of a queen cell. The workers therein do not occupy the same position as a queen in a queen cell.

"I have seen worker cells containing nymph free from any covering so that fresh air for respiration had access in abundance but with no other result than rearing worker bees."

It is frequently the case in hot weather that the brood capping are left off or the brood cells containing the nymph only partly covered. Even then the fresh air in abundance can only enter the spiracles of the thorax, and not those of the abdomen. And the natural conditions that I have named in the nymph referred to by Mr. Abram are absent and nothing but a working bee could be reared therefrom. The sentence is wholly in confirmation of my assertions.

"The required temperature is alwaysspresent where breeding takes place."

If Mr. Abrams means the "required temperature is always present" within the hive if he will again read the fifth paragraph of my article he will find it is one of the facts in nature that I have built upon.

"Outside temperature stood far below freezing point."

If it were far below zero *outside* it does not not alter the premises of my statements. What about the *inside* temperature? Mr. Abram must certainly have known I was not dealing with the open air. The remaining sentences of this paragraph referring to in-breeding are wholly foreign to my article. All the in- and in-breeding that could be produced cannot alter the natural conditions why a bees' egg can produce a drone, a queen, or a worker.

"The conditions and agencies are unaltered."

What conditions and agencies are unaltered?

"The result is utter ruin."

To what?

"Heredity in character is due to different causes.',

What are they? I gave my reasons for all my statements. Why has not Mr Abram done the same? It is very easy to make assertions, but what about the proofs? Mr Abram does not seem to know that our choicest strains of domesticated animals were originally produced by the selection of the fittest from in-and-in breeding, and all our new varieties are produced in the same way.

The first seventeen sentences in paragraph 5 are proof that the larval queen is fed with more food than the larval worker, and is merely an echo of my statements where it says, "The conditions I have named have all more to do with the development of the generative organs of queen bees than *feeding with large quantities of food*.

"That a natural queen cell is usually the form of an inverted cone finds its explanation in this: the bees when building their combs have *no consideration for queen cells*,"

Neither have they a consideration for building drone cells when they first take possession of a new home. Whoever

saw bees commence working in a new home by building drone cells? When a drone or queen cell is required then they have a consideration.

"Combs are built for other purposes, and there is *not much more than* bee space between each comb."

In the second paragraph of Mr Abram's article and the sixth sentence are these words :—

"*Very often*, the bees are required to build queen cells upon worker cells containing young larvae."

"When the desire for queen-rearing arises the bees utilise some of the *spaces* between the comb and hive or frame."

Who left the spaces? The bees? What did they build in them? Queen cells? The bees left the spaces, and in those spaces the bees built the cells, therefore there was consideration on the part of the bees that did the work.

"If now, space permits to continue these cells straight down they do so, but if not, as near the bottom of the comb, then the cells are *bent horn shape*, with no bad results whatever."

If the cells had not been *bent horn shape* there would have been bad results, and the bees "considered" it, and the *curve* was given to produce the natural conditions I have named. The cell *had been* turned horizontally, what was there to prevent the bees continuing them in the same horizontal direction? The curve is given to it because it shall hang pendulously and produce the same results as if it were built perpendicularly throughout. There is nothing to prevent bees from building queen cells on the bottom of the comb longitudinally in the same manner as they build drone and worker cells! only they could not build them with the same conditions I have named. Indeed it would be much more simple for them to do so than to give the hornshape curve, but they consider the "bad results" that would follow, therefore they give it the curve because "there will be no bad results whatever." This, on Mr Abram's part, is another acknowledgment for the queen's cell to be pendulous and perpendicular.

(To be concluded in our next.)

REPLY TO I.H., N.Z.

There is something very reasonable in the question asked by I. H., New Zealand, concerning a paragraph in my article on Heredity in Bees. He does not appear to have caught my idea. No change takes place in the egg at the poiut of the ova depositor. The change takes place at the spermatheca. If the egg receives a germ of spermatozoa it will produce a female bee If the point of the ova-depositor of the queen be then placed in a worker cell and the egg laid laid there the result will be a working bee. But if the point of the ova-depositor of the queen be placed in a queen cell and the egg be laid there it will be a queen bee. Of course we, or the bees themselves, can alter those conditions according to circumstances by the removal of the egg or larvae to a queen or worker cell as the case may be, or altering the form, &c., of the cell, as the exigencies of the case may require.

ALBERT GALE.

BEEKEEPING IN N. Z.

I was glad to see in your last number a communication from a N. Z. beekeeper —Mr. Horsefall—There are, however, one or two remarks in his letter that might unintentionally mislead therefore I feel that he will not object to me correcting him. Mr. Horsfall says :—"but I have come to the conclusion, after keen observation, that the bush trees are not over productive in yielding nectar. A stranger to our flora, on reading this would naturally infer that it yields very little nectar, whereas the contrary is the fact, hence my desire to correct the state ment. As an illustration I will take reports from a district 50 miles north of Auckland, which is as near as can be in the same latitude as where Mr. Horsefall reports from—he living 60 miles north.

On pages 280-1 of Hopkins' "Australasian Bee Manual," there is a report from Mr. J. Blair of the Great Barrier Island. The district I alluded to, giving the native and popular names of a mixed native flora from which the beekeepers

there obtain their crops of honey, and also in the next paragraph there is a considerable list of native plants yielding good quantities of nectar given by the author. Now, with regard to the yielding qualities of this particular flora, I will quote the following report from Mr. G. Blackwell of the Great Barrier published in the November, 1888, number of the late *Australasian Bee Journal*, page 77 :—

"I commenced the season of 1886 with 90 colonies, but did not begin to extract till the 23rd of December, and the yield for the season totalled 10,000lbs of extracted honey. Last season we began with 100 colonies, and took 12,000lbs. It commenced unusually late, as we did not begin to extract till the 9th of January. However we soon made up for it, for on the 19th of the same month—that is, in ten days, we had extracted 2,300lb and considering that this was taken from colonies which had been hived on foundation comb a short time previous, it was very good. From the 19th of January to the end of the season we extracted about every five days. I kept an account of the yield from a few of our best colonies the past season, which was as follows :—

"No. 1, 420lbs.; No. 2, 400lbs.; No. 3, 338lbs.; No. 4, 325lbs.; and No. 5, 300lbs. The average per colony for the five best was a little over 356 lbs., and the total average for the whole was 120lbs. The honey was of a very good quality, and granulated in five or six days after it was taken from the combs. It is worth mentioning that we had no other bees but Italians during the two seasons."

"G. BLACKWELL, Great Barrier."

I think the above is sufficient to bear me out in what I said, and to show Mr. H. his mistake. By the way it is worthy of note that there is no other flora than the native on the Island, from which the bees can gather any honey worth speaking about, and it is strange that the very tree—*Puriri*—which Mr. H. states the bees rarely visit, should be mentioned by Mr. Blackwell in a later report (Australasian Bee Journal Jan. 1889, page 109). as follows :—

"Puriri", which yields a large quantity of both honey and pollen, is in flower from March till Spring" (November) about eight (8) months. There is no doubt there is in different parts of the world single species of flora that give phenominal crops of honey in some seasons, beating the best of ours, by a long way, such as the white sage of California, the horsemint of Texas, the Eucalypti of your continent, but I do not think there is any country in the world that can boast of a better—take it all through—or more varied native bee flora than N. Zealand.

Mr. Horsefall in his P. S. says "Bee culture in the North Island is at a very low ebb,"and that "very few persons keep bees intelligently and on a large scale." Mr. H. can have but a very limited knowledge of what is going on in the bee world in the North Island to speak in that way. Why, I could take him to Apiaries where the colonies number 400 or 500, and where there are several out apiaries to each home apiary and I could direct him to where he could go and see a very large number of apiaries of from 50 to 150 hives. Let him travel to the Waikato, to Gisborne, Napier, Wellington, Wanganni, Taranaki, Great Barrier, and the intervening districts—all in the North Island—and he will then see what a mistake he has made. I also claim that he would find beekeeping at all these places carried on as "inteligently" as in America or anywhere else.

I take it that Mr. W. H. has got some what behind the times through the want of some local bee literature to keep him posted as to what is going on in our colony, which the *Bee Pulletin* I am sure is going to rectify. In my next I will explain why there is apparently so little enthusiasm shown by our beekeepers at shows.

Let us have the credit due to us.

MAORILANDER.

ALL communications for the A.B.B., must reach the office by the 20th. of the month, to ensure insertion in that month's issue.

SPECIAL WORK FOR MARCH

N.Z.

The favourable bee weather I mentioned we had last month has with very little break continued up to the present time. and the bees, with the exception of those in most districts north of Auckland, have been in a great measure making up for lost time. Those who had despaired of getting any honey this season are now congratulating themselves upon their surplus boxes being full, and are pleased.

PROSPECTS OF THE SEASON.

At present it is rather early to estimate what the result of the season will be, but judging from reports which have reached me I am inclined to think that, with the exception of those in the very northernmost districts, beekeepers will have good reason to be pleased. I not only believe that there will be a large crop of honey, but that it will be much superior to what is usually gathered. The high temperature, and other favourable conditions of the atmosphere, together with occasional genial rains, conduce to the development of better nectar in the blossoms, as well as a greater quantity. White clover blossoms have been unusually plentiful this season, and there is a good deal at the present time of writing—a very unusual thing about Auckland at this time of the year.

My prediction with regard to the bad weather in the early part of the season, that interfered so much with beekeeping in the north, would not likely make any difference south of Auckland, where the honey season commenced later, has been fully verified by the results.

SWARMING.

At the present time of writing (in the second week of February) we are still in the swarming season, as I prognosticated was likely to be the case this season, and from present appearances swarming is likely to continue to the end of February—a very uncommon thing; it would be more uncommon still if it were to extend into March next; if so by all means return the swarms.

ROBBING.

My remarks upon robbing last month are still applicable, and care should be taken that no carelessness takes place to induce it.

OVERHAULING COLONIES.

During this month it is well to go through the hives to ascertain what condition the colonies are in, and to rectify anything that may have gone wrong. A person who pays proper attention to his bees would know almost immediately when anything had gone wrong in any of the hives, but there are unfortunately so many who do not pay this attention, that it is necessary to jog their memories at the proper times, as to what ought to be done, hence the necessity of my writing. Sometimes overswarming will have so depopulated the hive as to make it necessary to unite the colony with another; and again, there is sometimes a loss of queens, which, unless rectified, would mean the loss of such queenless colonies. All these things should be looked for before it becomes too late in the season to put matters right. I shall give instructions for uniting next month; in the meantime find out if anything needs doing.

AUTUMN MANAGEMENT.

Paradoxical as it may seem, "Spring Management" should commence in the previous autumn. Every sensible beekeeper knows that a great deal of the success or otherwise of a season depends upon the condition of his bees in early spring, and this again depends upon how they have wintered, while to ensure their wintering well they must go into winter quarters in good condition. The chief conditions for wintering well are: 1st—a young, healthy queen; 2nd—plenty of food; and 3rd—plenty of young bees. In the absence of any of these conditions the colony will either come to grief during the winter, or be so weak in spring as to succumb, and be of little use. Presuming that there is a fair queen at the head of each colony, then it only becomes a question of a good supply of food to keep up breeding right up till the hives are finally fixed up for winter,

that would be in the month of May. Now, with a good proportion of young bees going into winter quarters, you can rely on the colony coming out of winter in a strong condition, and maintaining its strength—barring accidents of course—until spring breeding has sufficiently advanced to add daily to the number of bees. If this management in the autumn is adopted there will be no "Spring dwindling." Remember, a good queen late breeding and plenty of Autumn and Winter food, if you wish your bees to come out strong in Spring.

PAINTING AND CLEANING HIVES AND UTENSILS.

This is the best time of the year in N. Z. for painting and repairing hives if needed. Hives exposed to the weather need at least three coats of good paint in the first place before use and one coat, every second season after. If this is attended to hives will last for 15 or 20 years. In the Australasian colonies where the sun strikes very hot in summer, white is the best colour for hives—a very little black or blue paint added sufficient to give it a slatey tint will prevent the sun causing it to "chalk off" so readily. All the hives to stand out the Winter should be seen to now. All spare hives and utensils that have been used and done with for the season should be cleaned and repaired at once and disinfected with a strong solution of carbolic acid, previous to stowing them away

WORKING OFF SECTIONS AT END OF SEASON.

This is an important matter to those who raise considerable quantities of section honey. Unless a person is very careful he may have a large number of partly finished sections at the end of the season, which to say the least is a nuisance, and at the same time a loss. During my early experiences in raising this kind of honey, I sometimes had quite a quantity of half finished sections to carry over to the next season, but I soon began to cast about for some plan to avoid this inconvenience, and eventually adopted the following method, which I found answered very well, and have since seen no better one. When the season was drawing toward the close—but before honey gathering ceased—I collected from all the hives the partly finished sections, I next picked out as many of the very strongest colonies I had as would take these sections, and put them on their hives. On those hives from where the sections had been taken I placed frames of foundation comb, or large finished combs, in which to store honey. This plan gave the bees plenty of working room. As the sections on the other hive were finished I kept reducing the number of colonies at work on them till at the very end of the season there would probably be not more than one or two with but very few sections in that were not finished. These I put on a hive with rather a scant supply of food for the bees to clear out all the honey, or extracted the honey and put the combs away in a moth-proof box, for the next season.

A BEEKEEPER IN DISTRESS.

We have had a letter from him in which he says—I acknowledge my sins in not having written some information for journal, but I have had a very hard fight lately, and but for God's goodness I could not have been as I am. Writing has been out of the question, for I had no heart. I dropped from 95 hives to 18 through spring dwindling– only three swarms for the 18, and to cap all was let in for honey through banks failing. A nice nest egg, but I still float. Can you put me on to the management of apiary, fruit farm, and agriculture in general? —Certified under Technical Board, first grade, for Advanced Agriculture; five years farming in England; four years fruit (citrus and grape) growing in Spain; four years on a station, &c., &c. Have a large family, with five boys, and want something that I can eventually buy.—[Can any of our readers help him. —Ed.]

Mr. T. M. Hewitt, and the Lismore bee-keepers, are working hard to make a grand display at the Lismore Show, on the 28th inst, and March 1 and 2. We wish them every success.

THE SEASON AT MUDGEE.—Mr. W. Shaw, thusly :—Beekeepers have every reason to be satisfied with the results of the season so far, a splendid crop of honey having been secured. The flow at present is coming chiefly from the cocks-spur thistle and a beautifully clear and splendidly coloured honey it is. Taking one season with another, I do not think there are many districts in the colony that can surpass Mudgee.

THE NEXT CONVENTION.—A correspondent writes :—It is to be hoped that those responsible for drawing up a programme for the next Convention will lose no time at getting to work. There is nothing like beginning early and thus a rush is often avoided at the last moment. One of the most important questions at the next Convention will be,—"Where are we going to get a market for our surplus honey?

Mr E. C. Russell, Goulburn River, writes :—I started beekeeping this summer, but have had bad luck already. Lost four queens. They had their wings clipped. And lost three swarms that had not their wings clipped. The queens used to come out every day and at last they got lost. I have three to come out yet. I suppose they will get lost some of these times when I am away. They are young queens, the oldest about a fortnight, and have been coming out nearly every day since. Can you tell me the reason of it, and how to stop them, and if Italian queens would do any good up here. My bees are not making much honey now, they made more in winter when they were in boxes. The apple and gum trees will soon be in blossom. [Are you clipping wings of virgin queens? From other correspondents in the Hunter Valley we hear of quite a number of young queens being lost this year; we would like to ascertain the reason. Not the slightest doubt but Italian queens would do well in your district.—Ed.]

Mr W. Wormleaton, Bethungra, writes—I am very well pleased with the A.B.B., as I have learnt more out of it about bees this last six months than I ever learnt before Wishing you every success with it.

We have been asked by the Manager of the *Naturalists Journal*, England, to act as their agents, and shall be pleased to receive subscriptions or contributions to same, which we will forward on. The study of the infinite works of nature generally is so akin to that of our little bee pets, that we are sure many bee-keepers will be glad to have the light of its pages.

GOOD COMBS.—Mr. W. Shaw, Mudgee writes :—The other day Mr. C. Casinier took out seven Quinby frames from a super, and, as they seemed somewhat above the average he thought he would weigh them and he did so, with the following result :—Two weighed slightly over 11lbs. each, and the other five over 9½lbs each. It is needless to add that combs of this kind soon make an impression in the extractor.

Messrs Hobbs Bros. Tauwhie, Waikato, N.Z., writes :—Please find enclosed 5s 6d money order for one years' subscription to your invaluable journal. *Gleanings* is a splendid bee journal, but too far away for us Australasians to join in the discussions, and we do not require to read long articles on cellar wintering, &c.—We have nearly 400 colonies in Langstroth hives, in two apiaries, located in clover country. This season the weather is peculiar and the honey flow slow.

Mr Joseph Cooper, Armidale, writes :—The bees up here have done fairly well this season, but not as well as expected. The bush trees did not bloom but very little. The bees had to depend chiefly on clover, and small flowers and herbage. They are very savage at present, which I think is a bad sign, as mostly, when plenty of honey is in the field, they are much quieter to work. I will let you know my results for this season later on.

Mr C. Jordan, of Upper Copmanhurst, writes in December—I am greatly pleased with the *A.B.B.*, as there is a good deal of information contained in it which must be of great service to beginners in apiculture. I do not follow beekeeping for a living, but somehow I got so interested in the little creatures that I find myself now with twenty-six colonies. I first started with my own make twelve frame cross-bar boxes, but after transferring three or four I adapted Root's 8-frame hive. I am having a fair harvest this season, but on account of the dry weather in the early part the clover turned out a failure. To make up for this the various kinds of gum trees blossomed well, and the honey obtained from these, mixed with a little clover, is first-class. My bees are behaving very well as regards swarming. I have only had three swarms this season."

Mr Kenneth R. Douglas, Cudgel Creek, writes—I have received two copies of the *Australian Bee Bulletin*. I think it is a very handy little paper when a fellow has a few bees. I have four swarms now. I had about a dozen swarms at the starting of the season, but the codlin moth has only left four swarms. They were all black bees. I have a swarm of Italian bees; I got them from Sydney. It is a grand swarm of bees. I am very pleased with them; they seem to be stronger than the blacks; the moth has not interfered with them yet; I have only had them three months. I think they have about fifty pounds of honey. It is not a very good place for honey gathering here. I am thinking of trying some of that basswood I saw advertised in the Bulletin when it is time for the cuttings. I am going to ask you a question. Can you tell me any remedy for keeping the moth away from the bees? I have not heard or seen anything explaining it yet. The Bulletin is a very useful paper. I think I will give the black bees best, and try some Carniolan queens after a bit. Wishing you every success with your little journal. [For moths see page 192.—Ed.]

Mr. H Nancarrow has been successful in starting a beekeeper's association at Wellington, N.S.W., with twenty five members. They contemplate prizes to the value of £7 or £8, at the forthcoming show at Wellington, in April.

"Bulletin xlviii," issued by the Ontario Bureau of Industries, Canada, to hand. Speaking of bees and honey, it says:—"The prospects up to the time the August bulletin was published was most encouraging for the apiary, but the dry weather of the last few months has told against honey making. In fact, apart from white clover, there has been very little nectar available for bees to store. The consequence is that, while honey is of first-class quality, as a rule bees will go into winter quarters with light supplies and will require considerable feeding back. There was only casual mention of foul brood, but expert apiarists dread considerable mortality amongst bees during the winter from lightness of stores.

Mr J. G. Veness, Manilla, writes—To-day in looking over my bees I noticed that many of them were outside the hives. It has been a very hot day, so I suppose it was too warm in the hive for them. My attention was drawn to a noise on the ground in several places, when I discovered some of the bees were having a tussle with the common red ant, and I noted that the bee came off second best every time. I caught one ant that had hold of a bee, to try and make him let go his hold, but he still kept a firm hold of the bee, and did so still when I had pinched his (the ant's) head off. This is the first time I have noticed the ants tackle bees. I intend to make it hot for them in future. I find that hot water, with half-a-pint of kerosene to the bucketful, poured over them on their nest, a quick and sure remedy. The A.B.B. is a nice little paper. I was pleased and surprised when I received the first copy. I did not imagine there was such a useful publication in N.S.W. on the busy bee.

Mr. Rockliff, Lake Albert, writes :— Sir, some time ago, A. Gale, Esq., lectured at my school, on the bee, and being quite interested, I resolved to try my hand with bees. I made some frames (13 inches by 9½ inches) inside dimensions. Transferred my black bees from gin cases into my new boxes, and soon found out the improvement. I had bad luck last season, as I lost all my bees, save two colonies, I never robbed any honey from them, so I attribute my loss to scarcity of food. This season, I have 7 colonies, and am doing very well. as honey flow is abundant. As an experiment to satisfy myself, I gave bees foundation, and I could scarcely believe my own eyes when I looked at bees in a few days afterwards. My greatest pests are moths, and black ants (ants in millions.) My hives are on stands, with legs in water for ants. There is also a small bird here (commonly called the Sandpiper), which catches the bees on the wing. I wish I was a little nearer Maitland, so as I could visit some of the 'bee farms' for the purpose of seeing how things are managed. You learn more through seeing than reading. I find the A.B BULLETIN a very useful and interesting paper, and am trying to persuade others in this district to become subscribers.

Mr Packham, Quickborne ap., Molong writes :—Dear Mr Editor,—I have been a long time thinking about sending you a few lines from this district. My bees have done well so far this season. One swarm, hived on starters 2nd December, I extracted 201lbs to 30th December, not taking account of what was lost in the cappings. It was a very large swarm and hybrids. The bees are working on yellow box, white clover, aud black thistle. I did not allow much swarming. Prevented it by tiering up, in some cases having to go four high. I use the L. frame and 10-frame Simplicity hive. Am not satisfied with that kind of hive as they stand too high when tiered up. A whirl wind came through when I had them in single stories which made a great scatter, and I do not know what would be the result if they had been three or four high. I am making a hive to take the same frame, only long, after the style of hive explained by Mr Colbourn, page 154 *A.B.B.*, but dont like the idea of a zinc division board. Wishing you a prosperous year with the *A.BB*, &c.

Mr John Stewart, Kangiara, Tangmangaroo, writes—Thanks for notice of how to catch the moth, but I found that in the last copy of your valuable journal, which generally carries all the latest bee news ; by the aid of it I am getting along very well without any book. Before closing I wish to ask you the following questions :— Which do you advise, artificial or natural swarming ; also do you advise fruit trees to be planted between the rows of hives, or to leave them in the open ? [We should say, artificial swarming, but be very careful how you work it. Most certainly plant the trees.

Mr. A. E. Kendall, Bibbenluke, writes.—My bees are doing remarkably well. This is my first year's work with the extractor. I use the "Little Wonder," as I have only a few hives, and since 20th January, I have taken 216lbs of honey, from four hives, and at present there must be at least 80 or 100lbs in the supers, independent of what might be taken from the bottom boxes. The place is white with clover, the chief honey sources, and of course as a consequence, the honey is very clear. I am free from foul brood, paralysis, &c., &c., and the only thing that troubles me, is want of time, to attend to the busy little pets. The bush is alive with swarms this year. I have heard of a dozen this week and have been able to go for three only. A great pity the winters here are so long and severe, as there is abundance of pasture for about seven months. All sorts of good wishes for the success of the A.B.B., which seems to improve on each successive issue.

What's in a Name?

The leather-coloured is the only Italian breed. The others—Holy Land, Cyprian, Egyptian, Doolittle, &c., &c., all of which are called Italians—are more or less orange-coloured, and far less hardy than the Ligurian or true Italian breed. Why do all large breeders import queens of this strain to such an extent every season, with such risks and losses, and at such expense? A. I. Root, the great American supply dealer, imports them in batches of 50 at a time. It is simply because the experienced know where to go for quality. With all the efforts of the past twenty years or more to obtain an improved breed, this remains the favourite still with those who know its superior qualities. Breeds may come, and breeds may go, but this goes on for ever. My importation from Bologna of this season are still pegging away, and fully ninety per cent of the young queens prove purely mated, a proof of the advantageous position of the Hunter River Apiary. Although I make a speciality of the leather-coloured breed, I have a few breeding queens "yellow to the tip," as they boastfully say in America. The workers from these queens are four and five-banded. For sale to breeders for the purpose of colouring up other strains, or for those who may specially want extra handsome bees. Write for prices to suit these hard times. I guarantee satisfaction in quality and price. Scores of unsolicited testimonials from customers throughout N.S.W., Queensland, New Zealand, &c.

NOTICE.

All Communications must reach the office not later than the 20th of each month to appear in that month's issue.

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